



Westinghouse Electric Corporation

Air Arm Division

Friendship International Airport  
Box 746, Baltimore 3, Md.  
Telephone: 761-1000

October 15, 1962

Special Projects Office - ASZ-5  
Plans & Programs Office  
Directorate of Production  
Wright-Patterson AFB, Ohio

SUBJECT: Contract AF33(600)40280  
Change in scope - Item 16  
Ground Support Equipment Special Items  
Westinghouse Ref. AAN-45196-19  
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- Enclosure (1): Three (3) copies of "Description of Changes to Ground Support Equipment Special Items", dated October 15, 1962
- Enclosure (2): One (1) reproducible and six (6) copies Exhibit B, Section I, Ground Support Equipment Special Items, Revised October 15, 1962.
- Enclosure (3): Three (3) copies of Westinghouse Cost Analysis FE-777 Form dated October 18, 1962
- Reference (A): Westinghouse Letter to Special Projects Office ASZ-5, dated 27 August 1962; Subject - Contract AF-33(600)40280 Program Extension, Westinghouse Reference WED 45196.

Gentlemen:

In negotiating the Proposal of Reference "A", we mutually agreed to re-submit the quotation for changes to the Ground Support Equipment necessitated by equipment changes, as a revision to the Exhibit established for the GSE under Item 16. An outline of the changes required is presented in Enclosure (1).

Enclosure (2) is the revised Exhibit, showing revised part numbers (661R046001 changed to 661R046002 and 661R047001 changed to 661R047002) and incorporating the increased estimated cost and fee previously agreed to for the changes.

Enclosure (3) is a Cost Analysis Supporting our CFF quotation for the changes of \$49,863 estimated cost plus \$3,500 fixed fee. This quotation differs slightly from our previous estimate due to Labor Adjustment and G&A rate changes made since our previous quotation.

25 YEAR RE-REVIEW

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We wish to note that this estimate has simply been pro-rated to each item on the revised Exhibit, Enclosure (2), based upon the original ratio of estimated cost between the two items.


The equipment changes also require 2 additional Standard GSE items:

<u>Qty.</u>	<u>Part Number</u>	<u>Description</u>
1	NP - 212A	Function Generator
1	Sanborn - 150	4 Channel Recorder

By separate letter we will advise the Dept of this requirement.

Very truly yours,

WESTINGHOUSE ELECTRIC CORPORATION

  
Project Liaison  
Marketing Department

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RGE:lb

Enc.

cc: ASZ-5

Enclosure (1)  
October 15, 1962

Description of Changes to  
Ground Support Equipment  
Special Items

<u>Item No.</u>	<u>Qty.</u>	<u>Part Number</u>	<u>Title</u>	<u>Brief Description of Changes</u>
1	1	661ND46901 Changed to 661ND46902	System Test Simulator Consisting of:	
			(a) Frequency Converter	Provisions to supply precision reference frequency.
			(b) Frequency Translator	Modification of Modulators and addition of Buffer Amplifiers.
			(c) Target Simulator	Modification of Servo loop "A" and addition of Electronic Circuitry to provide for generation of a 1 kc offset frequency, necessary for Stability Testing. Redesign of Servo loop "B" to provide precision calibration of stability analyzer for accurate testing of system WFO. Redesign of Ramp Generator scope control circuitry to make possible testing variable Film Speed Recorder. Addition of a subsidiary control loop to Servo A to provide testing of HFT. and Angle compensation position loop. Addition of Buffer Stages to feed External Recorder.
			(d) Transponder	Modification of R.F. gating circuitry to facilitate CW operation, for testing HFT.
			(e) Stability Analyzer	Modification of Video Amp to add variable gain control, redesign of Modulators to reduce amplitude modulation for extension of sensitivity. Addition of CW mode for test WFO.
			(f) Range Resolution Test Pattern Generation	Redesign of Variable Frequency Generator and narrow pulse generator to simulate new transmitter parameters. Redesign of Delay Driver Circuitry to provide variable gate widths. Modification of Dynamic Range Circuitry.
			(g) Power Supplies	

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<u>Item No</u>	<u>Qty.</u>	<u>Part Number</u>	<u>Title</u>	<u>Brief Description of Changes</u>
1(contin't)	1	661R046001 Changed to 661R046002	(h) Control Panel	Redesign of Test Sequence Timer. Modification of control logic to facilitate additional test functions. Addition of precise pulse generating and counting circuitry to control accurate Film Speed Recorder.
2	1	661R047001 Changed to 661R047002	Evaluator Unit Consisting of:	
			(a) Range Resolution Optics Assembly	No Change
			(b) Azimuth Resolution Optics Assembly	Modification of optics to facilitate spectrum analyzing sine wave patterns. Modification of optics to increase evaluator resolution.
			(c) Evaluation Electronics Circuitry	Addition of logarithmic amplifier to provide linear Dynamic Range Readout.
			(d) Power Supplies	No Change

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## "EXHIBIT B"

Section I  
Ground Support Equipment  
Special Items

Contract AF 33(600)-40280

August 22, 1962

Revised October 15, 1962

Item No.	Qty.	Part Number	Description	Unit Estimated Cost	Unit Estimated Cost
1	1	661R046G02	SYSTEM TEST SIMULATOR Consists of:	\$ 141,249	\$ 141,249
			(a) Frequency Converter		
			(b) Frequency Translator		
			(c) Target Simulator		
			(d) Transponder		
			(e) Pulsed RF Stability Analyzer		
			(f) Range Resolution Test Pattern Generator		
			(g) Power Supplies		
			(h) Control Panel		
2	1	661R047G02	EVALUATOR UNIT Consists of:	33,697	33,697
			(a) Range Resolution Optics Assembly		
			(b) Azimuth Resolution Optics Assembly		
			(c) Evaluation Electronics Circuitry		
			(d) Power Supplies		
			Sub Total Estimated Cost		174,956
			Fixed Fee		<u>12,257</u>
			CPFF Total		187,213

Encl 3

NAME OF CONTRACTOR  
**Westinghouse Electric Corporation - Air Arm Division**

ADDRESS (STREET)  
**P.O. Box 746**

CITY **Baltimore** ZONE **3** STATE **Maryland** ORDER OR FILE NO. **AAN-45196-19** CONTRACT NO. **AF 33(600)-40280** ITEM NO.

ARTICLE **BOARD Extension - Ground Support Equipment** QUANTITY AT \$ EACH \$

TERMS AND DISCOUNT **Changes** NET TOTAL OF CONTRACT \$

ANALYSIS OF PRICE AS OF **October 15, 1962** TYPE OF CONTRACT **CPTT** INDICATE WHETHER DATA BELOW IS: PER UNIT ☐ OR TOTAL ☒

LINE	ITEM		AMOUNT
1.	MANUFACTURING COST - DIRECT:	X X X X X	X X X X X
A.	DIRECT MATERIAL		X X X X X
B.	FACTORY LABOR ( HOURS)		X X X X X
C.	FACTORY OVERHEAD		X X X X X
D.	TOOLS, DIES, JIGS, PATTERNS & FIXTURES		X X X X X
E.	OTHER (SCHEDULE ATTACHED)		X X X X X
F.	TOTAL DIRECT MANUFACTURING COST	X X X X X	
2.	PRODUCT DEVELOPMENT ( % OF 1F)	X X X X X	
3.	ENGINEERING COST - DIRECT:	X X X X X	X X X X X
A.	DIRECT MATERIAL	\$ 4,360	X X X X X
B.	ENGINEERING LABOR ( 5,120 HOURS)	21,902	X X X X X
C.	ENGINEERING OVERHEAD	17,919	X X X X X
D.	OTHER (SCHEDULE ATTACHED)		X X X X X
E.	TOTAL DIRECT ENGINEERING COST	X X X X X	\$ 44,181
4.	GENERAL RESEARCH ( 4.5 % OF 1F + 2 + 3E)		1,988
5.	TOTAL MANUFACTURING & ENGINEERING COST (1F + 2 + 3E + 4)		46,169
6.	GENERAL AND ADMINISTRATIVE EXPENSE ( 8.0 % OF 5)		3,694
7.	CONTINGENCIES (FURNISH DETAILS)		
8.	OTHER EXPENSES (FURNISH DETAILS)		
9.			
10.			
11.	TOTAL COST (SUM OF LINES 5 THRU 10)		49,863
12.			
13.	OPERATING PROFIT OR FIXED FEE		3,500
14.			
15.			
16.	TOTAL ESTIMATED COST INCLUDING FIXED FEE - COST TYPE CONTRACTS		\$ 53,363
17.	SELLING PRICE - FIXED PRICE CONTRACTS		
18.			
19.			
20.			

SEE DESCRIPTION OF COST AND PRICE ANALYSIS PROCEDURE

The subcontracted portion of this contract is estimated at \_\_\_\_\_ % of selling price.

#### CERTIFICATION

This is to certify that the above information contained in this report has been compiled from the records and books of this company (or is an estimate based on such books and records) and to the best of our knowledge and belief the costs and expenses shown hereon are correctly stated.

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**Westinghouse Electric Corp. - Air Arm Div.**  
 CONTRACTOR

**October 18, 1962**  
 DATE

Enclosure (3)

October 15, 1962

Ground Support EquipmentASN - 45106-19Labor Breakdown

<u>Budget Center</u>	<u>Hours</u>	<u>Rate</u>	<u>1962</u>	<u>Total Labor Cost</u>
Tech. Pub.	250	6.81		\$ 1,553
Model Shop	200	6.66		1,332
Components	90	8.73		437
Drafting	500	5.87		2,935
Engr. Lab.	500	5.25		2,625
Support & Evaluat. 1980		7.99		15,341
Radar Div.	1000	8.81		8,881
Mech. Design	350	8.81		<u>3,084</u>
				36,188
				<u>724</u>
				\$ 36,922
			<u>1963</u>	
Radar Div.	350	7.99		\$ 2,797
				<u>112</u>
				<u>2,909</u>
				\$ 39,821
			<u>TOTAL 1962 and 1963</u>	

**"EXHIBIT B"**

**Section I**  
**Ground Support Equipment**  
**Special Items**

Contract AF 33(600)40280

August 22, 1962  
 Revised October 15, 1963  
 Revised March 11, 1963

<u>Item No.</u>	<u>Qty.</u>	<u>Part Number</u>	<u>Description</u>	<u>Unit Estimated Cost</u>	<u>Unit Estimated Cost</u>
1	1	661R046G03	SYSTEM TEST SIMULATOR Consists of:	\$ 157,566	\$ 157,566
			(a) Frequency Converter		
			(b) Frequency Translator		
			(c) Target Simulator		
			(d) Transponder		
			(e) Pulse RF Stability Analyzer		
			(f) Range Resolution Test Pattern Generator		
			(g) Power Supplies		
			(h) Control Panel		
			(i) Single Axis Platform Test Set		
2	1	661R047G02	EVALUATOR UNIT Consists of:	33,697	33,697
			(a) Range Resolution Optics Assembly		
			(b) Azimuth Resolution Optics Assembly		
			(c) Evaluation Electronics Circuitry		
			(d) Power Supplies		
			Sub Total Estimated Cost	\$ 191,263	
			Fixed Fee		<u>13,407</u>
			CPFF Total	\$ 204,670	